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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Katsuyuki SAKAI et al.  
Title: OCCUPANT PROTECTION SYSTEM  
Appl. No.: 10/651,038  
Filing Date: 8/29/2003  
Examiner: Laura B. Rosenberg  
Art Unit: 3616  
Confirmation Number: 8515

**AMENDED BRIEF ON APPEAL**

Mail Stop Appeal Brief - Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Under the provisions of 37 C.F.R. § 41.37, this Amended Appeal Brief is being filed in response to the Notification of Non-Compliant Appeal Brief mailed September 5, 2006. If any additional fee is deemed to be necessary, authorization is hereby given to charge any deficiency (or credit any balance) to the undersigned deposit account 19-0741.

**REAL PARTY IN INTEREST**

The real party in interest is TAKATA CORPORATION, a Japanese corporation.

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals and interferences.



### **STATUS OF CLAIMS**

Claims 1-2, 4-6, and 8-12 are pending on appeal. A copy of the pending claims is presented in the CLAIMS APPENDIX. These claims have been finally rejected. Claims 3 and 7 have been cancelled.

### **STATUS OF AMENDMENTS**

Claims 1, 4, 5 and 9 were amended and claims 11 and 12 were added in an amendment filed on March 27, 2006, which was made after the Final rejection mailed on January 13, 2006. This amendment was entered, as indicated in the Advisory Action mailed on April 10, 2006.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

This invention is directed to an occupant protection system for protecting an occupant of a vehicle in the event of a crash. As noted in paragraph 0006 of the application, the occupant protection system includes a seat pan arranged below a seat cushion, an inflatable airbag arranged above the seat pan for pushing the front section of the seat cushion from below, and a gas generator for inflating the airbag in an emergency, with the airbag and gas generator mounted to the seat pan. As noted in paragraph 0008, the gas generator can be arranged along the upper surface or the lower surface of the seat pan. The connection between the gas generator and the airbag can be facilitated by arranging the gas generator along the upper surface of the seat pan, as discussed in paragraph 0008. The gas generator arrangement can be made more flexible by arranging the gas generator along the lower surface of the seat pan, as discussed in paragraph 0008. Appellant's disclosure provides support for such arrangements. For example, these arrangements are discussed in paragraph 0032 and illustrated in Figure 1-4, with Figures 1-3 showing examples of a gas generator arranged along the upper surface of a seat pan and Figure 4 showing an example of a gas generator arranged along the lower surface of a seat pan.

As set forth in independent claim 1, an occupant protection system 10 comprises a seat pan 8 arranged below a seat cushion; an inflatable airbag 12 arranged above the seat pan 8 for pushing the seat cushion from below; and a gas generator 14 for inflating the airbag 12

in an emergency, wherein the gas generator 14 is separate and exterior to the airbag 12, and is connected to the airbag 12 via a pipe 18; wherein the airbag 12 and the gas generator 14 are mounted to the seat pan 8; wherein the gas generator 14 is arranged along the upper surface of the seat pan 8.

As set forth in independent claim 4, an occupant protection system 10 comprises a seat pan 8 arranged below a seat cushion; an inflatable airbag 12 arranged above the seat pan 8 for pushing the seat cushion from below; and a gas generator 14 for inflating the airbag 12 in an emergency, wherein the gas generator 14 is separate and exterior to the airbag 12, and is connected to the airbag 12 via a pipe 18; wherein the airbag 12 and the gas generator 14 are mounted to the seat pan 8; wherein the gas generator 14 is arranged along the lower surface of the seat pan 8.

As set forth in independent claim 5, an occupant protection system 10 comprises a seat pan 8 configured to be mounted to a seat frame below a seat cushion; an inflatable airbag 12 mounted to the seat pan 8 to inflate above an upper surface of the seat pan 8 to push the seat cushion from below; and a gas generator 14 mounted to the seat pan 8 and connected to the airbag 12 to inflate the airbag 12, wherein the gas generator 14 is separate from the airbag 12 and the gas generator 14 is connected to the airbag 12 via a pipe 18; wherein the gas generator 14 is arranged along the upper surface of the seat pan 8.

As set forth in independent claim 9, an occupant protection system 10 comprises a seat pan 8 configured to be mounted to a seat frame below a seat cushion; an inflatable airbag 12 mounted to the seat pan 8 to inflate above an upper surface of the seat pan 8 to push the seat cushion from below; and a gas generator 14 mounted to the seat pan 8 and connected to the airbag 12 to inflate the airbag 12, wherein the gas generator 14 is separate from the airbag 12 and the gas generator 14 is connected to the airbag via a pipe 18; wherein the gas generator 14 is arranged along the lower surface of the seat pan 8.

Claim 1 recites an occupant protection system (see paragraphs 0006, 0017, 0022, 0033, and 0034 of the specification), comprising a seat pan (see item 8 in Figures 1-5 and paragraphs 0006, 0019, 0021, and 0034 of the specification) arranged below a seat cushion

(see paragraphs 0006 and 0021 of the specification), an inflatable airbag (see item 12 in Figures 1-5 and paragraphs 0006, 0022, and 0034 of the specification) arranged above the seat pan for pushing the seat cushion from below (see paragraph 0006 of the specification), and a gas generator for inflating the airbag in an emergency (see item 14 in Figure 1-5 and paragraphs 0006, 0022, and 0034 of the specification), wherein the gas generator is separate and exterior to the airbag (see items 14 and 12, respectively, in Figures 1-5), and is connected to the airbag via a pipe (see item 18 in Figures 1-5 and paragraphs 0023 and 0034 of the specification), wherein the airbag and the gas generator are mounted to the seat pan (see Figures 1-5 and paragraph 0006 of the specification), wherein the gas generator is arranged along the upper surface of the seat pan (see Figures 1-3 and paragraphs 0008, 0022, 0026, 0028 of the specification).

Claim 4 recites an occupant protection system (see paragraphs 0006, 0017, 0022, 0033, and 0034 of the specification), comprising a seat pan (see item 8 in Figures 1-5 and paragraphs 0006, 0019, 0021, and 0034 of the specification) arranged below a seat cushion (see paragraphs 0006 and 0021 of the specification), an inflatable airbag (see item 12 in Figures 1-5 and paragraphs 0006, 0022, and 0034 of the specification) arranged above the seat pan for pushing the seat cushion from below (see paragraph 0006 of the specification), and a gas generator for inflating the airbag in an emergency (see item 14 in Figure 1-5 and paragraphs 0006, 0022, and 0034 of the specification), wherein the gas generator is separate and exterior to the airbag (see items 14 and 12, respectively, in Figures 1-5), and is connected to the airbag via a pipe (see item 18 in Figures 1-5 and paragraphs 0023 and 0034 of the specification), wherein the airbag and the gas generator are mounted to the seat pan (see Figures 1-5 and paragraph 0006 of the specification), wherein the gas generator is arranged along the lower surface of the seat pan (see Figures 4-5 and paragraphs 0008 and 0034 of the specification).

Claim 5 recites an occupant protection system (see paragraphs 0006, 0017, 0022, 0033, and 0034 of the specification), comprising a seat pan (see item 8 in Figures 1-5 and paragraphs 0006, 0019, 0021, and 0034 of the specification) configured to be mounted to a seat frame below a seat cushion (see paragraphs 0018-0021 of the specification), an inflatable airbag (see item 12 in Figures 1-5 and paragraphs 0006, 0022, and 0034 of the specification)

mounted to the seat pan to inflate above an upper surface of the seat pan to push the seat cushion from below (see Figures 1-5 and paragraph 0006 of the specification), and a gas generator mounted to the seat pan and connected to the airbag to inflate the airbag (see item 14 in Figure 1-5 and paragraphs 0006, 0022, and 0034 of the specification), wherein the gas generator is separate from the airbag (see items 14 and 12, respectively, in Figures 1-5) and the gas generator is connected to the airbag via a pipe (see item 18 in Figures 1-5 and paragraphs 0023 and 0034 of the specification), wherein the gas generator is arranged along the upper surface of the seat pan (see Figures 1-3 and paragraphs 0008, 0022, 0026, 0028 of the specification).

Claim 9 recites an occupant protection system (see paragraphs 0006, 0017, 0022, 0033, and 0034 of the specification), comprising a seat pan (see item 8 in Figures 1-5 and paragraphs 0006, 0019, 0021, and 0034 of the specification) configured to be mounted to a seat frame below a seat cushion (see paragraphs 0018-0021 of the specification), an inflatable airbag (see item 12 in Figures 1-5 and paragraphs 0006, 0022, and 0034 of the specification) mounted to the seat pan to inflate above an upper surface of the seat pan to push the seat cushion from below (see Figures 1-5 and paragraph 0006 of the specification), and a gas generator mounted to the seat pan and connected to the airbag to inflate the airbag (see item 14 in Figure 1-5 and paragraphs 0006, 0022, and 0034 of the specification), wherein the gas generator is separate from the airbag (see items 14 and 12, respectively, in Figures 1-5) and the gas generator is connected to the airbag via a pipe (see item 18 in Figures 1-5 and paragraphs 0023 and 0034 of the specification), wherein the gas generator is arranged along the lower surface of the seat pan (see Figures 4-5 and paragraphs 0008 and 0034 of the specification).

#### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1, 2, 4-6, and 8-12 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Pub. No. 2001/0011810 (hereafter “Saiguchi et al.”).

## **ARGUMENT**

The Examiner has not made a prima facie case of anticipation because the prior art does not disclose all of the features recited by the claims. To the extent the Board may disagree, then the record as a whole demonstrates that the rejection cannot stand and should be reversed.

### **Rejection under 35 U.S.C. § 102**

The Advisory Action mailed on April 10, 2006 indicated in box 7 that the after-final amendments were entered. Box 11 of the Advisory action indicated that the request for reconsideration did not place the application in condition for allowance. However, the Examiner did not establish a prima facie case of anticipation in light of the claim amendments. Nor did the Examiner provide reasons for maintaining the previous rejection in light of the claim amendments. The Examiner merely stated “[a]pplicant’s arguments are not persuasive, and the amendment to the claims does not overcome the prior art of record.” See Continuation Sheet of Advisory Action.

Appellant contacted the Office to request an after-final interview to discuss the rejection. This request for an interview was denied by the Examiner. Appellant now respectfully requests the Board to review this rejection.

### **Claims 1, 2, 5, 6, and 8**

Claim 1 recites an occupant protection system that includes a seat pan arranged below a seat cushion, an inflatable airbag arranged above the seat pan for pushing the seat cushion from below, and a gas generator for inflating the airbag in an emergency; wherein the gas generator is separate and exterior to the airbag, and is connected to the airbag via a pipe, wherein the airbag and the gas generator are mounted to the seat pan, wherein the gas generator is arranged along the upper surface of the seat pan. Claim 5 includes similar language.

Saiguichi et al. discloses a seat that includes an airbag 320 that is arranged above a base plate 42 and an inflator 38C, 380 that is connected to the airbag 320 through an anchor



42d or side panel 420. See Saiguichi et al. at paragraphs 0172 and 0217-0218. As shown in Figures 23, 27, and 34, Saiguichi et al. discloses that the inflator 38C, 380 is arranged to the side of the base plate 42. Because the inflator 38C, 380 is arranged to the side of the base plate 42, Saiguichi et al. does not disclose that the inflator is “arranged along the upper surface of the seat pan.”

On page 3 of the Office Action mailed on January 13, 2006, the Examiner stated that “‘upper’ or ‘lower’ surface would depend upon the frame of reference, which has not been specified.” Appellant submits that the disclosure of the application provides a frame of reference and meaning for an upper surface. For example, Appellant’s disclosure provides meaning and a frame of reference for an upper surface in paragraph 0032 of the specification, as well as in Figures 1-3. In particular, Figures 1-3 show examples of a gas generator arranged along the upper surface of a seat pan. In light of the frame of reference and the meaning provided by the Appellant’s disclosure, one of ordinary skill in the art would understand that Saiguichi et al. does not disclose all of the features recited by claims 1, 2, 5, 6, and 8.

Appellant further notes that Saiguichi et al. is related to JP 2001-247010, which is discussed in paragraph 0004 of the specification. As noted in paragraph 0004 of the specification, this arrangement requires multiple operations to mount the system to a seat, thus complicating mounting of the system to the seat. By mounting the airbag and gas generator to a seat pan, Appellant’s invention facilitates mounting of an occupant protection system to a seat, as discussed in paragraph 0006 of the specification. Furthermore, arranging the gas generator along the upper surface of the seat pan can facilitate the connection between the gas generator and the airbag.

#### Claims 4 and 9-12

Claim 4 recites an occupant protection system that includes a seat pan arranged below a seat cushion, an inflatable airbag arranged above the seat pan for pushing the seat cushion from below, and a gas generator for inflating the airbag in an emergency, wherein the gas generator is separate and exterior to the airbag, and is connected to the airbag via a pipe;

wherein the airbag and the gas generator are mounted to the seat pan, wherein the gas generator is arranged along the lower surface of the seat pan. Claim 9 includes similar language.

Saiguichi et al. discloses a seat that includes an airbag 320 that is arranged above a base plate 42 and an inflator 38C, 380 that is connected to the airbag 320 through an anchor 42d or side panel 420. See Saiguichi et al. at paragraphs 0172 and 0217-0218. Because the inflator 38C, 380 is arranged to the side of the base plate 42, Saiguichi et al. does not disclose that the inflator is “arranged along the lower surface of the seat pan.”

As noted above, the Examiner stated in the Office Action mailed on January 13, 2006 that “‘upper’ or ‘lower’ surface would depend upon the frame of reference, which has not been specified.” See page 3 of Office Action mailed on January 13, 2006. Appellant submits that the disclosure of the application provides a frame of reference and meaning for a lower surface. For example, Appellant’s disclosure provides meaning and a frame of reference for a lower surface in paragraph 0032 of the specification and in Figure 4. In particular, Figure 4 shows an example of a gas generator arranged along the lower surface of a seat pan. In light of the frame of reference and the meaning provided by the Appellant’s disclosure, one of ordinary skill in the art would understand that Saiguichi et al. does not disclose all of the features recited by claims 4 and 9-12.

Appellant notes the advantages of the invention over Saiguichi et al. and JP 2001-247010, as discussed above. By mounting the airbag and gas generator to a seat pan, Appellant’s invention facilitates mounting of an occupant protection system to a seat, as discussed in paragraph 0006 of the specification. Furthermore, arranging the gas generator along the lower surface of the seat pan can increase the flexibility of the gas generator arrangement, as discussed in paragraph 0008 of the specification.




**CONCLUSION**

In view of the foregoing, it is respectfully submitted that the rejection of record should be reversed.

Respectfully submitted,

Date 10/5/2006

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**CLAIMS APPENDIX**

1. (Previously Presented) An occupant protection system, comprising:
  - a seat pan arranged below a seat cushion;
  - an inflatable airbag arranged above the seat pan for pushing the seat cushion from below; and
  - a gas generator for inflating the airbag in an emergency, wherein the gas generator is separate and exterior to the airbag, and is connected to the airbag via a pipe;
  - wherein the airbag and the gas generator are mounted to the seat pan;
  - wherein the gas generator is arranged along the upper surface of the seat pan.
2. (Original) An occupant protection system according to Claim 1, wherein the airbag extends along the width direction of the seat pan, opposite ends of the airbag being connected to the seat pan.
3. (Cancelled)
4. (Previously Presented) An occupant protection system, comprising:
  - a seat pan arranged below a seat cushion;
  - an inflatable airbag arranged above the seat pan for pushing the seat cushion from below; and
  - a gas generator for inflating the airbag in an emergency, wherein the gas generator is separate and exterior to the airbag, and is connected to the airbag via a pipe;
  - wherein the airbag and the gas generator are mounted to the seat pan;
  - wherein the gas generator is arranged along the lower surface of the seat pan.
5. (Previously Presented) An occupant protection system, comprising:
  - a seat pan configured to be mounted to a seat frame below a seat cushion;
  - an inflatable airbag mounted to the seat pan to inflate above an upper surface of the seat pan to push the seat cushion from below; and
  - a gas generator mounted to the seat pan and connected to the airbag to inflate the airbag, wherein the gas generator is separate from the airbag and the gas generator is connected to the airbag via a pipe;

wherein the gas generator is arranged along the upper surface of the seat pan.

6. (Original) An occupant protection system according to Claim 5, wherein the airbag extends along the width direction of the seat pan, opposite ends of the airbag being connected to the seat pan.

7. (Cancelled)

8. (Previously Presented) An occupant protection system according to Claim 5, wherein the upper surface of the seat pan includes a recessed area, and the gas generator is arranged in the recessed area.

9. (Previously Presented) An occupant protection system, comprising:

a seat pan configured to be mounted to a seat frame below a seat cushion;

an inflatable airbag mounted to the seat pan to inflate above an upper surface of the seat pan to push the seat cushion from below; and

a gas generator mounted to the seat pan and connected to the airbag to inflate the airbag, wherein the gas generator is separate from the airbag and the gas generator is connected to the airbag via a pipe;

wherein the gas generator is arranged along the lower surface of the seat pan.

10. (Previously Presented) An occupant protection system according to Claim 9, wherein the seat pan includes an opening, and the gas generator is connected to the airbag via the pipe, wherein the pipe extends from the gas generator, through the opening, to the airbag.

11. (Previously Presented) An occupant protection system according to Claim 4, wherein the airbag extends along the width direction of the seat pan, opposite ends of the airbag being connected to the seat pan.

12. (Previously Presented) An occupant protection system according to Claim 9, wherein the airbag extends along the width direction of the seat pan, opposite ends of the airbag being connected to the seat pan.

**EVIDENCE APPENDIX**

No evidence has been submitted, other than the remarks already made of record in response to the Office Actions. Therefore, there is no evidence to be attached by this appendix.

**RELATED PROCEEDINGS APPENDIX**

Appellant is unaware of any related appeals or interferences. Therefore, there is no decision to be attached to this appendix.